

**DETAILED ACTION**

***Response to Amendment***

1. This Office Action is made responsive to applicant's remarks received on 10 July 2008. Claims 13-24 are pending in this application. By this amendment, the abstract, specification and claims 13-24 are amended. No new matter is added. Claim 12 is the sole independent claim.

***Response to Arguments***

2. Summary of Remarks: Applicants also note that the present action does not indicate that the drawings have been accepted by the Examiner. Applicants respectfully request that the Examiner's next communication include an indication as to the acceptability of the filed drawings or as to any perceived deficiencies so that the Applicants may have a full and fair opportunity to submit appropriate amendments and/or corrections to the drawings.

Examiner's Response: The applicant's drawings are accepted and entered herewith this response.

3. Summary of Remarks: The specification is objected to because the abstract of the disclosure exceeds 150 words. Applicants have amended the abstract to obviate the objection. Withdrawal of the objection to the abstract is respectfully requested.

Examiner's Response: Applicant's arguments, see page 10, with respect to "Objections to the Specification" have been fully considered and are persuasive. Newly amended specification,

see page 2 of the applicant's remarks, is hereby entered with this Office Action. The "Objections to the Specification" has been withdrawn.

4. Summary of Remarks: Claims 13, 23 and 24 are objected to under 37 C.F.R. 1.75(d)(1) as failing to conform to the invention as set forth in the remainder of the specification. By the instant amendment, the Abstract and the instant disclosure (page 11, lines 1-4) have been amended to obviate the objections. Withdrawal of the objection is respectfully requested.

Examiner's Response: Applicant's arguments, see page 10-11, with respect to "Claim Objections" have been fully considered and are persuasive. Newly amended claims are hereby entered with this Office Action. The "Claim Objections" of claims 13, 23 and 24 have been withdrawn.

5. Summary of Remarks: Claims 13-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over WIPO Application WO 97/40619 to "Charney".

The Charney reference does not disclose or suggest the newly amended claimed features. The Charney reference is completely silent of teaching "over-sampling the digital marking in X according to a factor  $nx=d1x/d2x$  and in Y according to a factor  $ny=d1y/d2y$  in order to obtain a digital mark according to a resolution  $d1x/d1y$ ".

Charney also fails to disclose or suggest "eroding the points intended to be applied so as to guarantee that the minimum distance between them is respectively  $nx$  and  $ny$  in horizontal and vertical directions.

In particular, the "erosion" function as claimed in claim 13 is not to "deteriorate or disappear." But rather, to erode the points intended to be applied so as to leave one point every  $nx$  points in X and one point every  $nx$  points in Y. In other words, for example, the erosion may be a step in which the initial resolution may be restored and only one pixel of the initial resolution may be updated with the pixel of the low resolution while the other pixels may be left blank. The Charney reference fails to teach or suggest each and every feature.

Applicants respectfully submit that the newly amended Claim 13 is allowable of over the Charney reference. Claims 14-18 are dependent from Claim 12, and are therefore, allowable.

Examiner's Response: Applicant's arguments see page 11-14, with respect to Claim Rejections 35 U.S.C. 103(a) as being unpatentable over WIPO Application WO 97/40619 to "Charney". The remarks have been fully considered and are persuasive. The rejection of claims 13-18 have been withdrawn.

6. Summary of Remarks: Claim 18 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Charney in combination with Rhoads (USP 6,345,104). Claims 19-24 stand rejected based on the combination of Charney with Gasper (of record) and further in view of Linnartz (of record) under 35. U.S.C. 103(a). Applicant's respectfully request that the rejection of claims 19-24 be withdrawn based upon the fact that the aforementioned reference fails to provide the teachings noted above as missing from the Charney reference.

Examiner's Response: Applicant's arguments see page 15, with respect to Claim Rejections 35 U.S.C. 103(a) as being unpatentable over the aforementioned prior art references made of

record in combination with "Charney". The remarks have been fully considered and are persuasive. The rejection of claims 19-24 have been withdrawn.

### **EXAMINER'S AMENDMENT**

7. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Cho (Registration #48,078) on 24 September 2008.

The application has been amended as follows:

Listing of Claims:

At claim 13, line 7, delete "marking"; replace with - - mark - -.

At claim 13, line 10, after "the" and before "point"; insert - - X x Y- -.

At claim 13, lines 11, delete "the"; replace with - - a- -.

At claim 13, line 11, delete "them"; replace with; after "between" and before "is"; insert - - said X x Y points- -.

At claim 13, line 13, after "the" and before "spatial"; insert "digital"

At claim 14, line 2, after "the" and before "spatial"; insert - - digital- - .

At claim 15, line 2, after "the" and before "spatial"; insert - - digital- - .

At claim 15, line 2, after "initial" and before "spatial"; insert - - digital- - .

At claim 16, line 2, after "the" and before "spatial"; insert - - digital- - .

At claim 17, line 2, after “the” and before “spatial”; insert - - digital- - .

At claim 18, line 2, after “the” and before “spatial”; insert - - digital- - .

At claim 19, line 2, after “the” and before “spatial”; insert - - digital- - .

At claim 19, line 5, delete “obtained”, replace with - - acquired digital- - .

At claim 19, line 5, delete after “eliminate”, before “parts” - - the- -.

At claim 19, line 6, after “the”, before “spatial”, insert - - digital- - .

At claim 19, line 9, after “the”, before “spatial”, insert - - digital- - .

At claim 19, line 10, after “obtained”, before “spatial”, insert - - digital- - .

At claim 19, line 10, after “and”, before “group”; delete –the--, replace with - - a- -.

At claim 19, line 11, after “the”, before “spatial”, insert - - digital- - .

At claim 20, line 1, after “a”, before “spatial”, insert - - digital- - .

At claim 20, line 2, delete “stage”, replace with - - of the acquired digital image- - .

At claim 21, line 1, after “a”, before “spatial”, insert - - digital- - .

At claims 22, line 1, after “a”, before “spatial”, insert - - digital- - .

At claims 23, line 1, after “a”, before “spatial”, insert - - digital- - .

At claims 24, line 1, after “a”, before “spatial”, insert - - digital- - .

#### ***Allowable Subject Matter***

8. Claims 13-24 are allowed.
9. The following is an examiner’s statement of reasons for allowance: Amended Claim 13 is drawn to “oversampling the digital spatial mark in X according to a factor  $nx=d1x/d2x$  and in Y according to a factor  $ny= d1y/d2y$  in order to obtain a digital mark according to a resolution d1x

by d1y, eroding the X x Y points intended to be applied so as to guarantee that a minimum distance between said X x Y points is respectively nx and ny in horizontal and vertical directions.

Specifically, the oversampling function in which the digital spatial mark in the X and Y direction according to a factor of  $nx=d1x/d2x$  and  $ny=d1y/d2y$  is utilized to obtain a digital spatial mark. Additionally, the “eroding of the X x Y points intended to be applied so as to guarantee that the minimum distance between them is respectively nx and ny in horizontal and vertical directions”.

The closest prior art made of record is with regards to the Examiner's 103(a) rejections including the following documents (all made of record):

Charney et al. (WO 97/40619)

Rhoads (US 6,345,104 B1).

Gasper et al. (US 5,752,152)

Linnartz (US 7,000,113 B1)

Solachidis et al. “Circularly Symmetric Watermark Embedding in 2-D DFT Domain” IEEE Transactions on Image Processing, Volume 10, No. 11, November 2001.

Tefas et al. “Robust Spatial Image Watermarking Using Progressive Detection” IEEE, pages 1973-1976.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mia M. Thomas whose telephone number is (571)270-1583. The examiner can normally be reached on Monday-Thursday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on 571-272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*/ Mia M Thomas/*  
Examiner, Art Unit 2624

/Vikkram Bali/  
Supervisory Patent Examiner, Art Unit 2624